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(19) **United States**(12) **Patent Application Publication****HAN et al.**(10) **Pub. No.: US 2021/0230593 A1**(43) **Pub. Date: Jul. 29, 2021**(54) **PROGRAMMABLE CONDITIONAL SIRNAS
AND USES THEREOF**

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TECHNOLOGY**, Pasadena, CA (US)(21) Appl. No.: **17/172,461**(22) Filed: **Feb. 10, 2021****Related U.S. Application Data**(63) Continuation of application No. PCT/US19/46075,
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(2013.01)(57) **ABSTRACT**

Disclosed herein are programmable, conditionally activated small interfering RNA constructs (Cond-siRNAs) and methods of making and using the same as therapeutic agents. The Cond-siRNA comprises a sensor strand, a core strand, and a guide strand, which crossover to form a sensor duplex and a RNAi duplex attached to each other to form a single structure. Upon binding an input strand to the sensor strand, the Cond-siRNA is activated and releases RNAi targeting a desired gene.

Specification includes a Sequence Listing.